Name _____ Date _____

LESSON 4.2

Interdisciplinary Application

For use with the lesson "Use Linear Equations in Slope-Intercept Form"

Bald Eagles

Biology The bald eagle, our national symbol, is making a comeback from the brink of extinction. Although it has been illegal to hunt bald eagles since 1940, when the Bald Eagle Protection Act made it illegal to kill, harm, harass, or possess bald eagles, the eagle was listed as endangered in 1973 in most of the lower 48 states.

The eagle population was decimated after World War II when the pesticide DDT went into widespread use. The pesticide caused the birds to lay thin-shelled eggs that broke during incubation. DDT was banned in the U.S. on June 14, 1972. Since then, the eagle has steadily increased in numbers, and was down listed from endangered to threatened in August 1995. In July 1999, Congress and the president proposed removing it from the threatened list under the Endangered Species Act.

The Snake River Field Station coordinates the bald eagle survey throughout the lower 48 states. The survey reported 15,896 eagles in 1994. In 1995, 16,289 eagles were counted.

1. Write a linear equation to model the eagle population. Let x represent the number of years since 1990 and y the eagle population.
2. Graph the equation from Exercise 1.
3. Use the equation from Exercise 1 to estimate the eagle population in the year 2000.
4. In 1996, the number of eagles sighted declined slightly. What factors could have influenced the bald eagle count?
5. The number of eagles counted in 1999 was 18,362. Write a linear equation where x is the number of years since 1990 using year 1999 and year 1995 as your points.
6. Graph the equation from Exercise 5.
7. Use the equation from Exercise 5 to estimate the eagle population in the year 2000.